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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,428	12/22/2000	Naoki Kachi	040679/1191	8035

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EXAMINER	
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ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/742,428	KACHI ET AL.	
	Examiner	Art Unit	
	Hien Tran	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) *1-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-32* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 27, it is unclear as to what structural limitation applicants are attempting to recite and where it is disclosed in the original specification.

In claim 28, it is unclear as to what structural limitation applicants are attempting to recite (see claim 29 likewise); how the rhodium is related to the catalyst noble metal set forth in line 3.

In claim 29, line 3 it is unclear as to how the metals are related to the metal set forth in claim 28, lines 2-3 and the metal set forth in claim 25, line 9.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 25-26, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishii et al (EP 918,145).

With respect to claims 25-26, Ishii et al discloses a catalytic converter comprising: a carrier 12; a hydrocarbon (HC) trap layer 13 trapping HC; said HC trap layer 13 being disposed on the carrier 12; and a multilayered catalyst system disposed on the HC trap layer 13, said multilayered catalyst system comprising a first catalyst layer 14 disposed on the HC trap layer 13 and a second catalyst layer 15 disposed on the first catalyst layer 14; said first and second catalyst layers comprising catalyst noble metals; wherein the amount of the noble metal in the second catalyst layer is larger than an amount of the noble metal in the first catalyst layer and therefore the noble metal in the second layer is inherently active earlier than that of in the first layer (0045-0046).

With respect to claim 28, since it is unclear as to what structural limitation applicants are attempting to recite as set forth above, as best understood, Ishii et al discloses that the catalyst noble metal is three-way catalyst, which inherently comprises rhodium.

Instant claims 25-26, 28 structurally read on the apparatus of Ishii et al.

5. Claims 25-26, 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishii et al (US 6,296,813).

the same comments with respect to Ishii et al apply.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

9. Claims 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al (EP 918,145 or US 6,296,813) in view of Frestad et al (4,975,406).

With respect to claims 27-30, the apparatus of Ishii et al is substantially the same as that of the instant claims, but fails to disclose whether the catalyst layers may include the washcoat.

However, Frestad et al discloses the conventionality of providing a washcoat for each catalyst layer, one catalyst layer containing platinum and rhodium, the other catalyst layer containing rhodium (see, for example, col. 3, line 49 to col. 6, line 7).

It would have been obvious to one having ordinary skill in the art to include a washcoat for each catalyst layer in the apparatus of Ishii et al so as to provide a high specific surface area for the catalyst as taught by Frestad et al.

Since the amount of catalyst in the second catalyst layer is higher than the amount of catalyst in the first layer, the mass ratio of the catalyst present in the second catalyst layer to the washcoat present therein is higher that a mass ratio of the catalyst present in the first catalyst layer to the washcoat present therein.

Selecting an appropriate type of noble catalyst is within the purview of one having ordinary skill in the art during routine experimentation and optimization of the system, as evidenced by Frestad et al, if not inherent in Ishii et al.

The specific amount of washcoat in each catalyst layer is not considered to confer patentability to the claim. The precise specific amount of washcoat in each catalyst layer would have been considered a result effective variable by one having ordinary skill in the art. Accordingly, one having ordinary skill in the art would have routinely optimized the amount of washcoat in each catalyst layer to obtain the desired purification thereof. *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 31, Frestad et al discloses that the catalyst layers further contain metal oxide promoters.

It would have been obvious to one having ordinary skill in the art to provide metal oxide promoters as taught by Frestad et al in the apparatus of Ishii et al for reaction promoting and temperature stabilizing effect.

The specific amount of promoters in each catalyst layer is not considered to confer patentability to the claim. The precise specific amount of promoters in each catalyst layer would have been considered a result effective variable by one having ordinary skill in the art. Accordingly, one having ordinary skill in the art would have routinely optimized the amount of promoters in each catalyst layer to obtain the desired benefits attendant thereof. *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

10. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al (EP 918,145 or US 6,296,813) in view of Patil et al (5,152,231).

The apparatus of Ishii et al is substantially the same as that of the instant claim, but fails to disclose whether a base coat layer between the carrier and the zeolite may be provided.

However, Patil et al discloses the conventionality of providing a washcoat for the zeolite.

It would have been obvious to one having ordinary skill in the art to provide a washcoat for the zeolite in the apparatus of Ishii et al so as to provide a high specific surface area for the catalyst as taught by Patil et al.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 25-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,296,813 in view of Frestad et al (4,975,406).

The same comments with respect to Frestad et al apply.

13. Claim 32 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,296,813 in view of Patil et al (5,152,231).

The same comments with respect to Patil et al apply.

14. Claims 25-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,503,862 in view of Ishii et al (EP 918,145) and Frestad et al (4,975,406).

Claims 1-13 of U.S. Patent No. 6,503,862 discloses a discloses a catalytic converter comprising: a carrier 1; a base coat inorganic layer 2; a hydrocarbon (HC) trap layer 3 trapping HC; said HC trap layer 3 being disposed on the carrier 1; and a multilayered catalyst system

disposed on the HC trap layer 3, said multilayered catalyst system 4 comprising a first catalyst layer C disposed on the HC trap layer 3 and a second catalyst layer D disposed on the first catalyst layer C; said first and second catalyst layers comprising catalyst noble metals.

The same comments with respect to Ishii et al and Frestad et al apply.

Response to Arguments

15. Applicant's arguments filed 8/11/05 have been fully considered but they are not persuasive.

Applicants argue that Ishii et al '145 and "813 fail to disclose an arrangement a second catalyst layer 15 is disposed on the first catalyst layer 14 and directly over the HC trap layer 13. Such contention is not persuasive as the language of the instant claims is not commensurate in scope with such argument.

Applicants argue that the cited references fail to disclose the advantages of the catalyst layers where the catalyst noble metal in the second layer is controlled to be active earlier than the catalyst noble metal in the first layer as set forth in instant claim 25. Such contention is not persuasive as Ishii et al '145 discloses that the amount of the noble metal in the second catalyst layer is larger than an amount of the noble metal in the first catalyst layer and therefore the noble metal in the second layer is inherently active earlier than that of in the first layer (0045-0046).

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okada et al is cited for showing state of the art.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1454. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT
October 27, 2005

Hien Tran

Hien Tran
Primary Examiner
Art Unit 1764